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Notification of Reason(s) for Refusal

Patent Application No. Patent application No.2003-090614

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Applied Provisions Patent Law Section 29(1),
Patent Law Section 29 (2),
Patent Law Section 36

This application should be refused for the reasons mentioned below. If the applicant has any argument against the reason, such argument should be submitted within 60 days from the date on which this notification was dispatched.

Reason(s)

[Reason 1]

This application does not comply with the requirements under Patent Law Section 36(6) No. 2 since the description of claims is defective in the following points.

Note

A. As to all claims;

In the recitation of present claim 1, it is not clear what is compared with the second hole injection layer having a property of promoting injection of holes, and consequently makes the invention recited in this claim unclear. (Note that in the present recitation of claim 1, any hole injection layer may have such a property independently of the first hole injection layer.)

Accordingly, the invention as recited in claim 1 and its dependent claims 2 to 14 is not clear.

[Reason 2]

The invention(s) in the claim(s) listed below of the subject application should not be granted a patent under the provision of the Patent Law Section 29(1) No. 3 since it is described in the publication(s) listed below which was distributed in Japan or foreign countries of the invention(s) made available for public use through electric communication lines prior to the filing of the subject application.

Note (The list of cited references etc. is shown below.)

B. As to claims 1-4; Cited Reference 1

Cited reference 1 (see Inventive Examples 11 to 14 and Figs. 1 and

2 in particular) recites the following invention:

An organic electroluminescent device comprising in sequence: a hole injection electrode, a first hole injection transport layer, a second hole injection transport layer, a light emitting layer and an electron injection electrode, wherein the first hole injection layer is made of copper phthalocyanine, and the second hole injection layer is made of an amine compound.

The invention as recited in claims 1 to 4 of the present application will now be compared with the invention as recited in cited reference 1.

In view of the description in paragraph [0013] of the present application, the first hole injection transport layer made of copper phthalocyanine as recited in cited reference 1 corresponds to "a first hole injection layer" having a property of absorbing ultraviolet light as recited in claims 1 to 4 of the present application.

Further, since the second hole injection transport layer made of an amine compound as recited in cited reference 1 is well-known as a hole injection layer or a hole transport layer of an organic EL device and thus naturally has "a property of promoting injection of holes", this second hole injection transport layer of cited reference 1 corresponds to "a second

hole injection layer" having a property of promoting injection of holes as recited in claims 1 to 4 of the present application.

Therefore, there is no difference between the invention as recited in claims 1 to 4 of the present application and the invention as recited in cited reference 1 with respect to matters defining the inventions.

C. As to claim 14; Cited Reference 1

Since the invention as recited in claim 14 of the present application is merely a method of manufacturing an organic electroluminescent device of claim 1 of the present application, there is no difference between the method as recited in claim 14 of the present invention and a method of manufacturing an organic electroluminescent device as recited in cited reference 1 with respect to matters defining the inventions.

[Reason 3]

The invention(s) in the claim(s) listed below of the subject application should not be granted a patent under the provision of the Patent Law Section 29(2) since it could have easily been made by persons who have common knowledge in the technical field to which the invention(s) pertains, on the basis of the invention(s) described in the publication(s) listed below which was distributed in Japan or foreign countries of the invention(s) made available for public use

through electric communication lines prior to the filing of the subject application.

Note (The list of cited references etc. is shown below.)

D. As to claims 1-9; Cited References 1-3

In comparison between the invention as recited in claims 5 to 9 and the invention as recited in cited reference 1, they are different in the following respect and are the same in the rest.

In contrast to the invention recited in claims 5 to 9 of the present application in which the second hole injection layer is made of "fluorocarbon", the invention as recited in cited reference 1 discloses the second hole injection layer made of "an amine compound." (Hereinafter referred to as "difference 1")

Said difference 1 will now be considered as follows:

The use of fluorocarbon as a material for a hole injection layer of an organic EL device is a well-known matter as recited in, for example, cited reference 2 (see paragraph [0015] in particular) and cited reference 3 (see paragraph [0019] in particular).

Thus, it would have easily been conceived by ordinary skill in the art to use "fluorocarbon" recited in cited references 2 and 3 in place of an amine compound for the second

hole injection layer as recited in cited reference 1 to achieve the invention recited in claims 5 to 9 of the present application.

Furthermore, since it is noted in Fig. 5 of cited reference 2 that a drive voltage is lowered by use of "fluorocarbon" for a hole injection layer, the effects caused by use of "fluorocarbon" for the second hole injection layer in claims 5 to 9 of the present application are also within a range that ordinary skill in the art can expect.

In addition, the invention of claims 1 to 4 of the present application, which has a generic concept of the invention of claims 5 to 9 would have also easily been conceived from the inventions recited in cited references 1 to 3.

Accordingly, the invention of claims 1 to 9 of the present application would have easily been made by ordinary skill in the art based on the inventions recited in cited references 1 to 3.

E. As to claims 10-13; Cited References 1-3

It is merely a matter of design that can duly be made by ordinary skill in the art to just optimize the film thickness of each layer in the art of organic electroluminescent devices.

F. As to claim 14; Cited References 1-3

Since the invention as recited in claim 14 of the present

application is merely a method of manufacturing the organic electroluminescent device recited in claim 1, ordinary skill in the art would have easily conceived the invention of claim 14 from the methods of manufacturing organic electroluminescent devices recited in cited references 1 to 3.

List of Cited References

1. JP 6-314594 A
2. JP 2000-150171 A
3. JP 2002-75658 A

Records of Search on Prior Art

• Field of Search

IPC Seventh Edition H05B33/00-33/28

The records of Search on prior art are not part of the reasons for rejection.

* Reasons for rejection to each claim in proposed claim amendments (See the cited references etc. listed above.)